

2010-2011 GRADE 6 SCIENCE (PHYSICAL SCIENCE)			
Progression of Units	Length (Weeks) of Units	Subtopics & Learner "What Need To Know & Do"	Resources Equipment, Books, Kits
Chemical Interactions Kit (FOSS)	14-18 weeks	Scientific Method	
Investigation 1: Substances		word wall words: substance, chemical reaction, common name, chemical name, chemical formula	Chemical Changes. Add in physical/chemical properties terminology.
Investigation 2: Elements		word wall words: Periodic Table, element	Leveled Science book: Matter, Matter Everywhere. Add in structure of atoms & history of the atom (possible resource Blue Matter textbook)
Investigation 3: Particles		Special note: There is a lab in the investigation (Part 1) which requires the use of balloons-you may want to videotape and show as a demo, as latex balloons are an allergy concern.	Bill Nye: Fluids. Add in fourth state of matter plasma
Investigation 4: Kinetic Energy		In Part 1, you will also need balloons-Use this as a video demo that taped at home to avoid the use of latex in the classroom.	Special Activity-Particles Review Flip Book, word wall words: kinetic energy.
Investigation 5: Energy Transfer		Skip Part 3: Heat/calculating calories	Word wall words: energy transfer
Investigation 6: Heat of Fusion		Skip all off	
Investigation 7: Phase of Change		word wall words: evaporation, condensation, melting, freezing, sublimation, deposition	Bill Nye: Water cycle, Leveled Science book: Matter, Matter Everywhere. Add in 2 days of liquid nitrogen & dry ice demo (optional).
Investigation 8: Solutions		word wall words: solution, mixture, solute, solvent, dissolve	Special Activity-Photo Story-Karla Lawrence, Phase Changes.
Investigation 9: Reactions		word wall words: atoms, compound, molecules, reactants, products	Bill Nye: Atoms & Molecules, Leveled Science book: Chemical Changes, Acids and Bases. Add in acids, bases lab & mention the terminology law of conservation of matter (is taught in this investigation, but terminology is not used.)
End of Unit Assessment Idea - RAFT Writing Assignment			
Simple Machines	2-3 weeks	Definition of Simple Machine	Energy, Machines & Motion Kit
		ID 6 simple machines	
		Benefits of using Simple Machines	Bill Nye: Simple Machines, Leveled Science books: Machines in the Home, Machines Make it Move, Simple Machines.
		Scientific Method	
Astronomy	End of School Year - 2 week unit	Important People in Astronomy	Leveled Science book: Missions in Space, X-zone, So you want to be an astronaut
		Life Cycle of a Star	NASA website
		Constellations	Google Skymap?
		2 Types of telescopes	Bill Nye: Planets, Sun, Gravity
		Space Program	Safari Montage
		Universe-Galaxies-Solar System	
		Other Topics: Science & Math Expo, GPS Units/Field Trips, Current Science/Super Science, Global Warming?	

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FOSS Force & Motion	12-15 weeks	Scientific Method	STC Kit (Energy, Machines & Motion) FOSS Kit
Investigation 1, Here to There		Complete parts 1-3, Mini-lesson on measurement & using metric system & tools Begin equations wkst 3 Science notebook ideas are online	
Investigation 2, Speed		Complete parts 1-3, assign 2-3 examples on pg 18-19, Speed & Distance Practice A & B throughout investigation to reinforce ideas.	
Investigation 3, Comparing Speeds		All felt students needed some help/modifications calculating the same starting/ending times in photo finish. In part 2 modify the graph portion of boat speeds. The multimedia prog. Demonstrated the concepts well. Do all parts, part 2 is boat speed, & part 3 is the Iditarod. Possible integration into lang. arts with the Iditarod lesson could save science teaching time.	
Investigation 4, Representing Motion		Do part 1 & Leisurely Walks of part 2. Part 1 position graphs are fun to do in class. Part 3, Swap stories, is good if time is avail.	
Investigation 5, Acceleration		Part 1 was good, comparing constant velocity to acceleration. 2008-09 most teachers modified this investigation because of time & we didn't have the dotcar software. Dotcar software was not updated for part 2. Supplemental activity-fan cars with Vernier probes to measure acceleration. Students should understand acceleration is change of position over change of time.	Karen has Force video & study guides which incorporates the concepts of acceleration, inertia, Newton's Three Laws & gravity.
Investigation 6, Force		Do part 1 & 2.	Leveled science book: Force and Motion
Investigation 7, Gravity		Do part 1 & 2 the Life Raft Drop - thought students could be given the data & analyze the information to save time. We feel this investigation is a good lead into the astronomy unit.	Part 3 is a video Galileo: On the Shoulders of Giants
Investigation 8, Momentum		Dotcar connection is avail. But it will take too much time. Eliminate this investigation	
Chemical Interaction Kit		Needs addl focus on acids & bases & parts of the atom.	
		Important bottom line concepts for students: Can they make a prediction based on data/graphs? Can they problem solve using data/graphs? Can they read & interpret graphs? Trends & tendencies? Develop higher level critical thinkers	
		Our 6th gr. Science students will have the ability to think, not get to the last word on the science curriculum.	